

Case study

“The South Dakota Department of Health was able to respond immediately to an outbreak occurring at a local basketball game utilizing a novel functionality within the Maven platform. We created a dynamic outbreak questionnaire targeted to the food exposures people had while at the game, and people were able to self-enter their data directly. This Maven capability allowed us to respond quickly and effectively to the outbreak.”

– Nick Hill, Disease Surveillance Manager
South Dakota Department of Health



The challenge

The South Dakota Department of Health (SD DOH) provides health services in an expansive territory with the population of 850,000 very spread out. Within the SD DOH lies the Office of Disease Prevention, which is responsible for disease surveillance and outbreak investigations in the state. The ability to react quickly and reach people in distances outside of Pierre, where the SD DOH is located, are essential to South Dakota responding to outbreaks. The department needed a user-friendly, web-based system with functionality that would allow them to collect as much data in as short a time as possible.

The solution

The SD DOH has been using the Maven Disease Surveillance and Outbreak Management software – a secure web-based communicable disease management software that tracks people who are either infected with or exposed to communicable diseases – since 2009. However, when a food-borne outbreak occurred at a local basketball game, the SD DOH decided to utilize Maven’s questionnaire functionality to deploy surveys to those that attended the basketball game to determine what they had eaten and understand what potential exposures may have caused the outbreak.

The SD DOH worked with the school district and the local media to obtain and import a complete list of email of K-12 students from a community school system and other community members that had attended the event. The Maven system allowed SD

DOH epidemiologists to create an outbreak-specific questionnaire which was sent to each interviewee by email, using a unique encrypted URL, with a voluntary request to complete the questionnaire online. Subjects were able to enter their https-encrypted data directly into Maven using their mobile devices or computers.

The results

By 8:15am the next morning, the SD DOH analyzed the first cut of data and determined there was statistical evidence of a food product that was the toxic exposure. With Maven, the SD DOH was able to respond quickly, detect the potential exposure, and even identify cases for follow-up confirmatory stool tests. The State Public Health Laboratory confirmed *Clostridium perfringens* in the stool of several cases the following week. With the utilization of the Maven Outbreak Management system and Maven’s online survey functionality, the SD DOH was able to use technology to quickly respond and identify the source of the outbreak, instead of the typical deployment of epidemiologists and disease intervention specialists to the local site in response to the outbreak to conduct calls and interviews over several days’ time.